



The \$134 million Gilmerton Bridge Replacement Project will replace the existing bascule bridge (circa 1938) with a state-of-the-art vertical lift bridge, spanning the southern branch of the Elizabeth River on Military Highway (Route 13) in the city of Chesapeake. Phased construction is required to maintain existing vehicular and maritime traffic while the new bridge is built in parallel alignment over the existing bridge.

Schedule

- Float-in Date: January 2013
- Fixed Completion Date: January 2014

Project Highlights

- Vertical clearance allows larger vessels to travel under the bridge, reducing number of bridge lifts
- Wider land widths to accommodate expansion when Route 13, Military Highway is widened
- Congestion should be reduced as a result of fewer openings
- Bridge construction is being overseen by the Virginia Department of Transportation (VDOT)
- City of Chesapeake continues to own, operate and maintain the facility
- On schedule for substantial completion and within budget

Challenges

- Limited access between railroad and existing bridge
- Restricted channel closures for maritime traffic
- Coordination with Norfolk Southern Railroad
- Tower erection over existing roadway
- Building new bridge over and under existing bridge
- Demolition of existing bridge under the newly constructed bridge

Phased Construction

- Phase I
 - Shift existing four-lane traffic to two-lane traffic
 - Construct two southbound lanes (approach spans), lift span and towers
 - Install mechanical and electrical lift system
- Phase II
 - Float-in lift span
 - Shift traffic to new bridge, south-side lanes
- Phase III
 - Demolition of existing bridge
 - Construct north-side approaches
 - Open all travel lanes

Construction Management Team

- VDOT

Dennis Heuer, PE, DBIA, District Administrator
Mark Cacamis, PE, State Construction Engineer
Mike Davis, PE, District Construction Engineer
Bud Morgan, PE, Area Construction Engineer
Ricardo Correa, PE, Design Manager
Ashton Lawler, PE, State Structures and Bridges
Mitch Layton, Construction Manager

- CEI

Parsons Brinkerhoff (PB)

Marc Papini, Project Manager
Andrew King, Construction Manager
Matt Liffick, PE, Deputy Project Manager
McDonough Bolyard Peck, Inc.
John Machner, Site Records Manager
Hardesty and Hanover
Doug Neely, PE, PM Moveable Bridge

NXL

Seventh Point

- Engineer of Record

Modjeski and Masters - Moveable Bridge
Gannett Fleming - Approach Bridges

- General Contractor

PCL Civil Constructors, Inc.

- Major Subcontractors

EV Williams Inc.
McLean Contracting
DT Read
Edwards Electric



The 12-ft. diameter drilled shafts are among the largest drilled shafts ever constructed in the U.S. using the oscillator method with temporary casing.



The towers are approximately 220-ft. tall with each leg supported by a 12-ft. diameter drilled shaft 125-ft. deep.

New Vertical-Lift Span Bridge

- Four-lane, vertical-lift bridge: Comprised of a single span which rises vertically, remaining parallel with the bridge deck, to accommodate maritime traffic and then descends to close.
- Lift Span Length: 250 ft.
- Open Position: 135 ft.
- Closed Position: 35 ft.
- Bridge width: 85 ft. wide.
- Vertical lift towers: 207 ft. tall each; include 1,009 steel members, each ranging from 5,000 pounds to 150,000 pounds

Construction Facts

- Eight 12-ft.-diameter drilled shafts, among the largest in diameter ever constructed in the U.S. using the oscillator method with temporary casing
- Total length of drill shafts: 124 ft.
- 10 million pounds of structural steel
- 3.1 million pounds of reinforcing steel
- 30,000 cubic yards of concrete
- 7,000 cubic yards of structural fill
- 4,500 linear feet of drainage pipe
- Four 15-ft. high retaining walls
- Eight 15-ft.-diameter sheaves
- 200 different assembly lots of bolts



The lift span, which accommodates a six lane road, was built offsite and will be floated in on a barge for final placement.